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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/522,533

01/27/2005

Frank Meschke

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12/15/2008

THE NATH LAW GROUP

112 South West Street

Alexandria, VA 22314

EXAMINER

BURKHART, ELIZABETH A

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

12/15/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/522,533	Applicant(s) MESCHKE, FRANK	
	Examiner Elizabeth Burkhart	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-6 are pending in the application. Amended claim 4 has been noted. The amendment filed 9/25/2008 has been entered and carefully considered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over McNallan et al ('833) in view of Matsui et al.

McNallan discloses a method of producing a shaped body characterized in that a material with a metal carbide (SiC) surface is heated to a temperature between 800-1200°C in the presence of a gas mixture containing chlorine, hydrogen, an argon (Col. 10, line 65-Col. 11, line 1) in order to convert the SiC surface into a carbon film (Col. 8, lines 1-10). The carbon film may be amorphous carbon (Col. 3, lines 35-40).

McNallan does not disclose heating the SiC in a defined region of its surface by means of a radiation source in order to locally convert the SiC to carbon in this defined region.

Matsui discloses using an electron beam or ion beam to heat a defined region of a substrate such that amorphous carbon is deposited in said defined region by the decomposition of a carbon precursor (p. 3181-3182).

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It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to use the radiation source of Matsui to heat the SiC surface of McNallan in order to form amorphous carbon deposits on localized portions of the surface rather than coating the entire surface.

Thus, claims 1-4 and 6 would have been obvious within the meaning of 35 USC 103 over the combined teachings of McNallan and Matsui.

3. Claims 1, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kusunoki et al in view of Matsui et al.

Kusunoki discloses a process for producing a shaped body characterized in that a material having a metal carbide (SiC) surface is heated to a temperature of about 1700°C under vacuum in order to decompose said SiC to form a carbon nanotube film (L605, experimental section).

Matsui discloses using an electron beam or ion beam to heat a defined region of a substrate such that nanostructured carbon is deposited in said defined region by the decomposition of a carbon precursor (p. 3181-3182).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to use the radiation source of Matsui to heat the SiC surface of Kusunoki in order to form nanostructured carbon deposits on localized portions of the surface rather than coating the entire surface.

Thus, claims 1, 5, and 6 would have been obvious within the meaning of 35 USC 103 over the combined teachings of Kusunoki and Matsui.

Response to Arguments

4. Applicant's arguments filed 9/25/2008 have been fully considered but they are not persuasive. Applicant argues that the cited references do not teach all the claim limitations. Specifically, Applicant argues that the cited references do not teach local conversion of the SiC material to carbon rather than coating or deposition or that a laser or electron beam is used. The examiner disagrees. McNallan teaches that the metal carbide (SiC) is converted to amorphous carbon by heating the metal carbide in the presence of a reaction gas (Col. 8, lines 10-20), but does not teach locally converting the metal carbide using a laser or electron beam. Matsui, however, teaches that amorphous carbon can be formed in defined regions of a substrate by using an electron beam or ion beam (p. 3181, Col. 1). It would have been obvious to one of ordinary skill in the art to use an electron beam as suggested by Matsui in the process of McNallan in order to form amorphous carbon in only defined regions of the substrate, especially since McNallan discloses that for some applications, it is desirable to form carbon on selected portions of a substrate (Col. 21, lines 42-46). Thus, the combination of McNallan and Matsui teaches or reasonably suggests every limitation of the claims.

Applicant also argues that Matsui relates to a completely different technical field unrelated to sintered SiC ceramic materials of the instant subject matter. The Examiner agrees that Matsui does not provide any teaching concerning sintered SiC ceramics. However, one of ordinary skill in the art would have been motivated to combine the teachings of Matsui and McNallan since Matsui teaches localized deposition of amorphous carbon by decomposition of a precursor using electron beam or ion beam

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and McNallan teaches decomposing a precursor (SiC) to form amorphous carbon wherein it may be desired to form the carbon on selected portions of a substrate (Col. 21, lines 42-46).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., sintered SiC ceramic materials) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Although Kusunoki does not mention sintered SiC ceramic materials, Kusunoki does teach a method of producing a shaped body characterized in that material having a metal carbide surface is heated in order to convert said metal carbide into carbon. Kusunoki does not teach heating a defined region of the metal carbide surface such that the metal carbide is locally converted to carbon. However, this limitation is met by Matsui for the reasons discussed above. Thus, the combination of Kusunoki and Matsui teaches or reasonably suggests every limitation of the claims.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Burkhart whose telephone number is (571)272-6647. The examiner can normally be reached on M-Th 7-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Elizabeth Burkhart/
Examiner, Art Unit 1792

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/Timothy H Meeks/
Supervisory Patent Examiner, Art Unit 1792